AMENDMENTS TO THE CLAIMS

Listing of Claims:

1. (Currently Amended) A process for cementing a subterranean formation, comprising:

(a) forming a cement composition comprising a cement and one or more beads combined with the cement; and

(b) introducing an inert gas phase to the cement composition via in situ formation of the inert gas while the cement composition is positioned in the well bore~~.~~;

wherein the inert gas phase compensates for the breakage of at least one of the beads.

2. (Canceled)

3. (Original) The process of claim 1 wherein step (b) reduces an elastic modulus of the cement composition by from about 5% to about 90%.

4. (Original) The process of claim 1 wherein the beads are selected from the group consisting of cenospheres, glass spheres, ceramic spheres, and combinations thereof.

5. (Canceled)

6. (Previously Presented) The process of claim 1 wherein the introducing the inert gas phase further comprises one or more of the following methods:

(i) adding a porous material to the cement composition; and

(ii) injecting gas directly into the cement slurry.

7. (Original) The process of claim 6, further comprising displacing the cement composition into a well bore in contact with the subterranean formation.

8. (Original) The process of claim 7 wherein the gas generating material is a nitrogen generating material, and further comprising introducing an oxidizing agent to the cement composition, the oxidizing agent being capable of activating the nitrogen generating material.

9. (Original) The process of claim 8 wherein the oxidizing agent is introduced to the cement composition prior to the displacing the cement composition, and wherein the nitrogen generating material is introduced to the cement composition during the displacing the cement composition such that the oxidizing agent activates the nitrogen generating material, thereby producing gas in the cement composition.

10. (Original) The process of claim 8 wherein the nitrogen generating material is introduced to the cement composition prior to the displacing the cement composition, and wherein the oxidizing agent is introduced to the cement composition during the displacing the cement composition such that the oxidizing agent activates the nitrogen generating material, thereby producing gas in the cement composition.

11. (Original) The process of claim 8 wherein the nitrogen generating material and the oxidizing agent are concurrently introduced to the cement composition during the displacing the cement composition.

12. (Original) The process of claim 8 wherein the nitrogen generating material is selected from the group consisting of hydrazine, hydrazine salt of an acid, azodicarbonamide, azobis(isobutyronitrile), p-toluene sulfonyl hydrazide, p-toluene sulfonyl semicarbazide, p-p'-oxybis(benzenesulfonylhydrazide), carbodihydrazide, and combinations thereof.

13. (Original) The process of claim 8 wherein the oxidizing agent is selected from the group consisting of ammonium persulfate, sodium persulfate, potassium persulfate, sodium chlorite, sodium perborate, sodium peroxy carbonate, calcium hypochlorite, sodium hypochlorite, sodium bromite, sodium hypobromite, sodium bromate, sodium chlorate, and combinations thereof.

14. (Original) The process of claim 6 wherein the gas generating material is a hydrogen generating material.

15. (Original) The process of claim 14 wherein the hydrogen generating material is selected from the group consisting of aluminum, calcium, zinc, magnesium, lithium, sodium, potassium, and combinations thereof.

16. (Original) The process of claim 14 wherein the hydrogen generating material is an aluminum powder.

17. (Canceled)

18. (Original) The process of claim 1 wherein the inert gas phase is present in the cement composition in an amount effective to maintain a density of the cement composition in a range of from about 8 to about 23 lb/gal when one or more of the beads break.

19 – 31. (Canceled)

32. (Currently Amended) A method for cementing a well bore, the method comprising:

selecting a desired density for a down hole cement composition;

forming a cement composition having an actual density at the surface;

estimating a change in the actual density when the cement composition is positioned down hole; and

adding an inert gas to the cement composition, the inert gas compensating for the estimated change in the actual density such that the actual density is about equal to the desired density when the cement composition is positioned down hole~~.~~;

wherein the cement composition comprises a plurality of beads, and wherein the change in actual density results from the breakage of at least one of the beads when the cement composition is positioned in the well bore.

33. (Canceled)

34. (Previously Presented) The method of claim 32 wherein inert gas phase is added to the cement composition via in situ formation of the inert gas while the cement composition is positioned down hole.

35. (Previously Presented) The method of claim 32 wherein the pressure exerted on the cement composition by the formation is at least 1,000 pounds per square inch.

36. (Previously Presented) The method of claim 32 wherein the compressive strength of the cement composition is at least 2,000 pounds per square inch.

37. (New) A method comprising:

forming a cement composition comprising a plurality of beads; and

adding a gas to the cement composition;

wherein the compressive strength of the cement composition is at least about 2,000 pounds per square inch.

38. (New) The method of claim 37 further comprising: breaking at least one of the beads, thereby increasing the density of the cement composition; wherein the addition of the gas to the cement composition decreases the density of the cement composition.

39. (New) The method of claim 38 wherein the density increase caused by the breakage of the beads is about equal to the density decrease caused by the addition of the gas.

40. (New) The method of claim 37 wherein the gas is added in situ while the cement composition is positioned in the wellbore.